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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,598	07/23/2001	Harley Kent Heinrich	411951-234	3661

23879 7590 02/18/2004

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EXAMINER	
LE, KIET T	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 02/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,598	HEINRICH ET AL.	
	Examiner	Art Unit	
	Kiet T Le	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) 1 - 16 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 -16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman (US – 6,593,845) in view of Heinrick et al (US – 5,850,181).

Regarding **claims 1 and 13**, Friedman discloses an RFID transponder, comprising:

electronic circuitry to provide RFID functionality (see col. 2, lines 30 – 37);

an energy storage device coupled to said electronic circuitry to provide an operational voltage thereto (see fig. 8, capacitor 336, col. 13, lines 35 – 42);

a battery operatively coupled to said energy storage device to provide a charge thereto (see fig. 8, VBAT and Capacitor 336); and

a rectified RF power source derived from an interrogating RF field operatively coupled to said energy storage device to provide a charge thereto (see fig. 8, ANT_IN, and capacitor 336, col. 13, lines 20 – 55) said rectified RF power source and said battery being electrically separated from each other (see fig. 8, ANT_IN and VBAT);

Friedman fails to discloses said energy storage device remains charged by said battery in the absence of said RF interrogating field while said battery has remaining

capacity, and said energy storage device is charged by the presence of said RF interrogating field after said battery has become depleted.

However, Heinrich teaches energy storage device remains charged by said battery in the absence of said RF interrogating field while said battery has remaining capacity, and said energy storage device is charged by the presence of said RF interrogating field after said battery has become depleted (see col. 4, line 61 to col. 5, line 7). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of invention to provide the above teaching of Heinrich to Friedman in order to keep the RF transponder to operate continuously if RF interrogating field is not available.

Regarding **claims 2, 11 and 14,** the combination of Friedman and Heinrick disclose energy storage device further comprises a capacitor (see Friedman, fig. 8, capacitor 336, col. 13, lines 35 – 42).

Regarding **claim 3**, the combination of Friedman and Heinrick disclose the RFID transponder, further comprising a first diode coupled between said the rectified RF power source and said energy storage device (see Friedman, fig. 8, diode 334, ANT_IN and capacitor 336).

Regarding **claim 4**, the combination of Friedman and Heinrick disclose the RFID transponder, further comprising a second diode coupled between said battery and said energy storage (see Friedman, fig.8, diode 344, capacitor 336 and VBAT).

Regarding **claim 5**, the combination of Friedman and Heinrick disclose said rectified RF power source comprises an RF front end adapted to receive said

interrogating RF field and provide a rectifier voltage therefrom (see Friedman, col.13, lines 6 – 19).

Regarding **claim 6**, the combination of Friedman and Heinrick disclose said electronic circuitry further comprises a digital state machine adapted to control operation of said RFID transponder (see Friedman, fig. 4, Stage Machine 52,col. 7, lines 13 – 41).

Regarding **claim 7**, the combination of Friedman and Heinrick disclose said electronic circuitry further comprises an analog circuit block adapted to convert signals between analog and digital formats and to recover a clock signal from receive analog signals (see Friedman, col. 18, lines 27 – 44).

Regarding **claim 8**, the combination of Friedman and Heinrick disclose said electronic circuitry further comprises a memory device adapted to store data values (see Friedman, col. 7, lines 29 – 31).

Regarding **claim 10**, Friedman discloses a method for powering an RFID transponder comprising electronic circuitry to provide RFID functionality (see col. 2, lines 30 – 37); and an energy storage device coupled to said electronic circuitry to provide an operational voltage thereto (see fig. 8, capacitor 336, col. 13, lines 35 – 42), Friedman fails to discloses said method comprising the steps of:

charging said energy storage device continuously from an internal battery while said battery has remaining capacity; and

charging said energy storage device passively from a rectified RF power source derived from an interrogating RF field after said battery has become depleted.

Heinrick teaches:

charging said energy storage device continuously from an internal battery while said battery has remaining capacity; and

charging said energy storage device passively from a rectified RF power source derived from an interrogating RF field after said battery has become depleted (see col. 4, line 61 to col. 5, line 7).

Therefore, it would have been obvious to one of the ordinary skills in the art at the time of invention to provide the above teaching of Heinrich to Friedman in order to keep the RF transponder to operate continuously if RF interrogating field is not available.

Regarding **claim 12**, the combination of Friedman and Heinrick disclose the step of electrically isolating said internal battery from said rectified RF power source (see Friedman, fig. 8, ANT_IN and VBAT).

Regarding **claim 15**, the combination of Friedman and Heinrick disclose wherein said first charging means further comprises a battery operatively coupled to said energy storage device through a first diode (see Friedman, fig. 8, VBAT, diode 344, and capacitor 336).

Regarding **claim 16**, the combination of Friedman and Heinrick disclose wherein said second charging means further comprises a rectified RF power source operatively coupled to said energy storage device through a second diode (see Friedman, fig. 8, ANT_IN, diode 334 and capacitor 336).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman (US – 6,593,845) in view of Vega et al (US – 6,282,407).

Regarding **claim 9**, Friedman discloses said memory device (see col. 7, lines 29 – 31). However, Friedman fails to disclose memory further comprises an electrically erasable, programmable read-only memory. Vega teaches an electrically erasable, programmable read-only memory (see col. 8, lines 26 – 29). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of invention to provide the above teaching of Vega to Friedman in order to be electrically erases the data in the memory device and store the new data.

Conclusion

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kiet Le whose telephone number is (703) 305-9006. The examiner can normally be reached on Monday-Friday from 8:00 am to 6:00pm.

If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703)-308-5318. The fax number for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Kiet T. Le

Feb 11, 2004

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600